EAS 372. FORECAST for location C. Alberta by JDW

Prepared day/date/time Thurs 29 Jan 2015, 10:30Z **Valid** Thru Fri & Sat 30/31 JAN.

Point form. Qualitative or quantitative prediction as seems appropriate.

Source(s) e.g. GEM reg 48h, NAM, Public fcst...

GEM RDPS and NAM-WRF

Dominant/most relevant surface system(s) & location w.r.t. zone of interest

Arctic high builds down into Ab/Sask thru Friday

Strength & character of winds aloft (700 hPa or higher – strong/ average/ slack; zonal?; highly meridional?; upwind ridge/trough?; etc.)

700 hPa flow turns from ~W to ~NW, weak closed upper low advects onshore

Thickness (likely value; trend or change relative to present)

~534 at 12Z today, 516 by 12Z Sat ⇒ ΔZ = 18 dam (9°C)

Cooling aloft stronger than at surface

Thermal pattern at 850 hPa level (e.g. very uniform/front nearby...)

Surface temperature

Sfc Northerly sustained much of Friday (to NE on Sat)

Humidity aloft

>70% shield advects over C. Ab

Cloud (coverage in octas; level; type?)

Patchy until ~21Z Friday then solid, probably mid-level cloud

Surface wind (speed & direction)

Not a dramatic change in Tsfc to end of fcst period (maybe 5° of cooling)

Incursion of milder air again by late Wed 5 Feb (GDPS)

Shortwaves (vort. maxs at 500 hPa?)

nothing remarkable

Stability (based on forecast sounding)

speculate cooling aloft tending to destabilize column

Vertical motion (omega at 850 & 700 hPa levels)

Band of $\omega \sim -1$ Pa s^{-1} affects C. Ab ~ 06Z Sat, weakening by 12Z

Precipitation (likelihood & character)

~5mm liquid (5cm snow) mostly falling before 06Z Sat

Noteworthy factors (e.g. presence of snow cover constraining sfc temperature, etc.)

A weak surface low flits across province, does took much of a factor

Fcst elements least/most certain

Depth of snow

J D Wilson,
EAS, Univ. of Alberta
8 Jan. 2015